

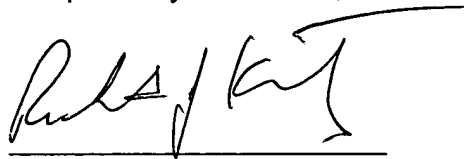
REMARKS

This Supplemental Amendment is in response to the Notice of Non-Compliant Amendment mailed April 30, 2003. The Examiner considered the amendment filed November 29, 2001 to be non-compliant for not being submitted in the format required by 37 C.F.R. § 1.121. Claims 4, 6, 8, 9, 15, 18-25 are pending. Claims 19 and 20 have been amended.

Applicants respectfully submit that this Supplemental Amendment and its accompanying mark-up version are in compliance with 37 C.F.R. § 1.121. No new matter has been added by this Supplemental Amendment.

Each and every point raised in the Notice of Non-Compliant Amendment mailed April 30, 2003, has been addressed in this Supplemental Amendment. Reconsideration and withdrawal of the prior rejections are respectfully requested. However, should the Examiner believe that direct contact with the Applicants attorney would advance prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

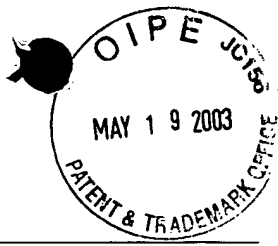
Respectfully submitted,



Richard J. Katz
Registration No. 47,698
Attorney for Applicants

Dated: May 13, 2003

DARBY & DARBY, P.C.
Post Office Box 5257
New York, NY 10150-5257
Phone (212) 527-7700



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PATENT TRADEMARK OFFICE

Docket No: 2309/0F390

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Yoshihisa FUJIOKA et al.

RECEIVED

JUN 10 2003

Serial No.: 09/274,197

Art Unit: 3734 TECHNOLOGY CENTER R370

Filed: March 22, 1999

Examiner: REICHLE, K.

Confirmation No.: 8108

For: ABSORBENT ARTICLE FOR PREVENTION OF SIDEWARD LEAK

May 19, 2003

MARK-UP FOR SUPPLEMENTAL AMENDMENT OF
MAY 19, 2003 PURSUANT TO 37 C.F.R. §1.121

Commissioner of Patents
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IN THE SPECIFICATION:

On Page 1, line 10, bridging Page 2, line 7, delete the text and insert the following new text:

A common means for caring for individuals suffering from incontinence is the use of an absorbent article, such as a urine-absorbent pad, worn inside a disposable diaper. A conventional urine-absorbent pad contains a facing layer and a backing layer, with an absorbent core interposed between the layers. The facing layer, which faces the wearer [in] during use, is liquid-permeable. The backing layer, which faces the disposable diaper [in] during use, is liquid-impermeable. The absorbent core is formed from crushed pulp or a mixture of crushed pulp and super absorbent polymer (SAP). In addition, the urine-absorbent pad has an adhesive layer which sticks to the inside of the disposable diaper [so as to prevent] for preventing the urine-absorbent pad from slipping out of place in the disposable diaper.

The urine-absorbent pad receives a liquid insult directly in the case of an incontinence episode, and has the capacity to retain an amount of urine excreted by an adult during one or two incontinence episodes. The pad must be replaced as it is saturated with urine, which depends on the frequency of episodes, in order to prevent liquid from moving to the disposable diaper. Thus, it is possible to avoid the replacement of the disposable diaper by frequently changing the wet pad. However, this is not always possible, such as during periods of sleep, when the urine-absorbent pad is left in place for a long time. After repeated liquid insults, the urine-absorbent pad cannot absorb additional liquid, which results in excess liquid leaking from the pad.

The problem is that the excess liquid flows to the side or periphery (which is in contact

with the groin) rather than to the center of the disposable diaper (absorbent area of the disposable diaper), because the backing layer of the urine-absorbent pad is impermeable to liquid and faces the center of the disposable diaper. The periphery of the conventional disposable diaper does not [sufficiently] absorb urine sufficiently, thereby causing it to leak at the sides of the diaper, which results in wet clothes or sheets. This same problem also occurs if two sanitary napkins are worn together on top of each other.

On Page 2, line 14 through line 19, delete the text and insert the following new text:

In one embodiment of the invention, a first absorbent article is worn inside of a second absorbent article, wherein the first article contains a liquid-permeable facing layer which is in contact with the wearer, and a backing layer which is in contact with a second absorbent article[.]. Here, the backing layer [being] is formed from a liquid-impermeable sheet and [having] has at least one opening made therein.[, and] In addition, an absorbent core is interposed between the facing layer and the backing layer.

On Page 2, line 25, bridging Page 3, line 2, delete the text and insert the following new text:

The absorbent article of the present invention is designed [to be worn] for wear inside of another absorbent article such as a disposable diaper, urine-absorbent pad, or sanitary napkin. The absorbent article absorbs a certain amount of liquid by the absorbent core but permits excess liquid which remains unabsorbed by the core to pass through the backing layer for absorption by another

absorbent article such as a disposable diaper. Accordingly, the leakage of excess liquid from the side of the absorbent article is prevented.

On Page 3, line 3, bridging Page 4, line 1, delete the text and insert the following new text:

The absorbent article can be modified such that the backing layer is provided with a liquid-impermeable covering sheet that can be removed at any time when necessary. With the covering sheet on, it stops the flow of urine; with the covering sheet removed, it permits the passage of urine. When frequent [changing] changes of the absorbent article [is] are possible, such as during the daytime, it may be used with the covering sheet attached to prevent frequent replacement of the second absorbent article[, such as] (e.g., a disposable diaper)[,] used in combination with absorbent article. When frequent [changing is] changes are unlikely, such as during periods of sleep, the absorbent article may be used with the covering sheet removed, thereby absorbing liquid efficiently and securely in combination with another absorbent article.

The absorbent article can be modified such that the backing layer is provided with an adhesive means for fastening the backing layer to another absorbent article. In such a structure, the absorbent article will not slip out of place, and the movement of liquid to the other absorbent article is ensured.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1(A) is a perspective view showing a urine-absorbent pad as an example of an

absorbent article according to the invention[.];

Fig. 1(B) is a plan view of the urine-absorbent pad shown in **Fig. 1(A)**, as viewed from a backing layer, with a covering sheet attached[.];

Fig. 1(C) is a plan view of the urine-absorbent pad shown in **Fig. 1(B)**, as viewed from the backing layer, with the covering sheet removed[.];

Fig. 2 is a perspective view which illustrates how the urine-absorbent pad of **Fig. 1(A)** is used in combination with a disposable diaper[.];

Fig. 3 is a plan view which illustrates how the urine-absorbent pad shown in **Fig. 1(A)** is used in combination with a disposable diaper[.];

Fig. 4 is a schematic sectional view taken along the line IV-IV in **Fig. 3**[.];

On Page 4, line 2 through line 14, delete the text and insert the following new text:

Fig. 5 is a perspective view of the urine-absorbent pad shown in **Fig. 1(A)** which is folded for use by a man, with its shape [so] modified so as to enclose a penis[.];

Fig. 6(A) is a plan view of a urine-absorbent pad as another example of the absorbent article according to the invention, as viewed from a backing layer, with a covering sheet attached[.];

Fig. 6(B) is a plan view of the urine-absorbent pad shown in **Fig. 6(A)**, as viewed from the backing layer, with the covering sheet removed[.];

Figs. 7(A) and 7(B) are perspective views of examples of openings[.];

Fig. 8(A) is a plan view of a urine-absorbent pad as another example of the absorbent

article according to the present invention, as viewed from a backing layer, with a covering sheet attached[.];

Fig. 8(B) is a plan view of the urine-absorbent pad shown in **Fig. 8(A)**, as viewed from the backing layer, with the covering sheet removed[.]; and

On Page 4, line 24 through Page 6, line 4, delete the text and insert the following new text:

The urine-absorbent pad **20** comprises a liquid-permeable facing layer **21** which faces the wearer [in] during use, and a backing layer **22**, which faces a disposable diaper [in] during use, and an absorbent core **23** which is interposed between the two layers.

The facing layer **21** can be made from a nonwoven fabric of hydrophilic fibers hydrophobic fibers containing a hydrophilic surfactant, or the like[.], [which] The facing layer 21 can be formed by various processes such as point bonding, through-air bonding, spun bonding, or spun lacing.

The backing layer **22** is made of a liquid-impermeable, breathable sheet of resin, such as polyolefin.

*Paul
1-19-0*

The absorbent core **23** is formed from crushed pulp or a mixture of crushed pulp and ~~Super-absorbent polymer~~ Super-Absorbent Polymer (SAP), and is covered with an absorbing sheet **23a** such as tissue. (See **Fig. 4**.) The ^{SAP}SAP can be made of polyacrylic acid, sodium polyacrylate, polyacrylamide, polyacrylonitrile, polyvinyl alcohol, an addition polymer of maleic anhydride, a polyether, a condensed polymer, a polysaccharide such as starch or cellulose, a protein such as collagen and the like. Examples of the SAPs include a cross-linked compound of sodium polyacrylate, a graft copolymer of

starch having sodium polyacrylate and a graft copolymer of cellulose having polyacrylonitrile chains.

The absorbent core **23** is rectangular in shape as indicated by the dotted lines in **Figs. 1(B)** and **1(C)**. It may also take on an hourglass shape. With the absorbent core **23** interposed between the facing layer **21** and the backing layer **22**, the layers are then bonded together with a hot-melt adhesive, or the like, along the periphery of the absorbent core **23**.

As used herein, the "absorbing area" refers to the area which is surrounded by the dotted lines in **Figs. 1(B)** and **1(C)** and the area of the absorbent core **23**.

The urine-absorbent pad **20** has elastic members **24** which are disposed between the facing layer **21** and the backing layer **22** and extend in the lengthwise direction (**Y** direction) of the urine-absorbent pad **20**. The elastic members **24** exist in side areas where the absorbent core **23** is absent (i.e., outside of the absorbing area in the widthwise direction (**X** direction) of the urine-absorbent pad **20**). The elastic members **24** are bonded to the facing layer **21** and the backing layer **22** [in its] when stretched [state] in the **Y** direction (with a certain [per cent] elongation percentage). In their free state, they shrink in the **Y** direction, causing the facing layer **21** and the backing layer **22** to form gathers **25** on both [the] side areas of the urine-absorbent pad **20** in the **X** direction.

On Page 6, line 24, bridging Page 7, line 4, delete the text and insert the following new text:

The covering sheet **27** is made of a liquid-impermeable and breathable sheet of resin such as polyolefin, like the backing layer **22**. The adhesive layer **26** is formed from a gum adhesive or

acrylic resin[,] to permit removal of the covering sheet **27** [to be removed] at any time from the backing layer **22**, and retains a certain adhesive power even after the covering sheet **27** has been removed.

When the urine-absorbent pad **20** is used in combination with a disposable diaper, the adhesive layer **26** (with the covering sheet **27** removed) adheres to the inside of the disposable diaper[, thereby

preventing] As a result, the urine-absorbent pad **20** is prevented from slipping out of place. In addition, because the urine-absorbent pad **20** is in contact with the disposable diaper, the passage of urine to the disposable diaper is secured.

On Page 11, line 15 through line 23, delete the text and insert the following new text:

The urine-absorbent pad **30** has a backing layer **31** which is made of liquid-impermeable resin film (such as polyolefin), similar to the backing layer **22** of the urine-absorbent pad **20**. The backing layer **31** has a number of openings **31a** which almost entirely cover the absorbent core (or absorbing area) [almost entirely], as shown in **Fig. 6(B)**. In other words, this embodiment is constructed such that the liquid passing area **(b)** substantially coincides [substantially] with the absorbing area (the area containing the absorbent core). Incidentally, the openings **31a** may be formed in the entire area of the backing layer **31** although they are confined to the absorbing area in [the] this particular embodiment.

On Page 12, line 2 through line 12, delete the text and insert the following new text:

In the case of the urine-absorbent pad **30** in which the openings **31a** are [so] formed

so as to almost entirely cover the absorbent core (or the absorbing area) [almost entirely], it is necessary to provide an adhesive layer **32** as described below to ensure proper adhesion between the backing layer **31** of the urine-absorbent pad **30** and the inner layer **2** of the disposable diaper **1**. Thus, the adhesive layer **32** is preferably formed in the absorbing area (or the area in which the absorbent core exists). Assuming that the area in which the adhesive layer **32** is formed has dimensions of **L1** by **W1**, the length **L1** (**Y** direction) should be equal to or smaller than the length **L0** of the absorbent core but greater than 50% of the length **L0**. In addition, it is preferred that the total area of the adhesive layer **32** is less than 60% of the area of the absorbent core in order to ensure the smooth flow of urine from the backing layer **31** to the disposable diaper **1**.

On Page 13, line 1 through line 5, delete the text and insert the following new text:

The openings may be positioned and shaped as shown in **Figs. 7(A)** and **7(B)**. In **Fig. 7(A)**, comparatively large round (or elliptic) holes **31b** are formed in a line extending in the lengthwise direction (**Y** direction) and approximately at the center of the urine-absorbent pad. In **Fig. 7(B)**, one large hole **31c** is formed almost equal to the absorbing area (or the area in which the absorbent core exists).

On Page 13, line 29, bridging Page 14, line 2, delete the text and insert the following new text:

Incidentally, the coating pattern of the first adhesive layer **42** is not limited to a striped pattern, but may take on any shape, such as[, for example,] dots or spirals.

On Page 14, line 23, bridging Page 15, line 3, delete the text and insert the following new text:

The first adhesive layer **42** and the second adhesive layers **43**, as described above, prevent the covering sheet **44** from inadvertently being removed or [peeling] peeled off, because the side portions of the covering sheet **44** are attached to the backing layer **41** by the second adhesive layers **43**. When the covering sheet **44** is removed from the backing layer **41**, the first adhesive layer **42** (in a striped pattern) appears at the center (in the widthwise direction) of the backing layer **41** and adheres to the inside of the disposable diaper **1**, thereby preventing the urine-absorbent pad from slipping out of place. In this case, the second adhesive layers **43** exhibit very little adhesive force and therefore do not adhere to the wearer's skin or hair even when the side areas of the urine-absorbent pad **40** are facing the groin.

On Page 15, line 4 through line 13, delete the text and insert the following new text:

A third adhesive layer **45** as a third adhesive means may be formed on the covering sheet **44** as shown in **Fig. 8(A)**. When the urine-absorbent pad **40** is used with the covering sheet **44** attached, and in combination with the disposable diaper **1**, the inner layer **2** of the diaper **1** is fastened (bonded) to the third adhesive layer **45** so that the urine-absorbent pad **40** stays in position. It is important that the adhesive force of the third adhesive layer **45**, when applied to the inner layer **2**, is weaker than that of the second adhesive layers **43** applied to the covering sheet **44**. This embodiment aids in preventing inadvertent removal of the covering sheet **44** [from inadvertent removal] from the backing layer **41** when the urine-absorbent pad **40** is removed from the disposable diaper **1**.

On Page 16, delete the last paragraph and insert the following paragraph:

As used herein, “comprises” and all its grammatical forms specifies the presence of stated features, integers, steps or components, but [dose] does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof.

IN THE CLAIMS:

Please amend the claims pursuant to 37 C.F.R. § 1.121 as follows (see the accompanying “marked up” version pursuant to § 1.121):

19. (Amended) The absorbent article of Claim [14] 23, wherein the covering sheet comprises a third adhesive means[, said third adhesive means exhibiting] which exhibits an adhesive force to another absorbent article when the absorbent article is [contacted with the another] applied to the other absorbent article, without removing the covering sheet, wherein the adhesive force of the third adhesive means to [the] another absorbent article is weaker than the adhesive force of the second adhesive means to the covering sheet.

20. (Amended) The absorbent article of Claim [17] 25, wherein the covering sheet comprises a third adhesive means[, said third adhesive means exhibiting] which exhibits an adhesive force to [another] the other absorbent article when the absorbent article is [contacted with the another] applied

to the other absorbent article without removing the covering sheet, wherein the adhesive force of the third adhesive means to the [another] other absorbent article is weaker than the adhesive force of the second adhesive means to the covering sheet.